



Chicago Metropolitan Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606

312 454 0400
www.cmap.illinois.gov

**Chicago Metropolitan Agency for Planning (CMAP)
Environment and Natural Resources Committee
Minutes
Wednesday, September 2, 2015**

Offices of the Chicago Metropolitan Agency for Planning (CMAP)
DuPage County Conference Room
Suite 800, 233 S. Wacker Drive, Chicago, Illinois

Committee Members

Present: Jennifer Becker – Kane County Division of Transportation, Ed Collins – McHenry County Conservation District, Jack Darin – Illinois Sierra Club, Martha Dooley – Village of Schaumburg, Vincent Waller (for Deb Stone) – Cook County Department of Environmental Control, Sean Wiedel – Chicago Department of Transportation, Patricia Werner – Lake County Stormwater Management Commission

Absent: Lynn Boerman – IDNR, Jon Grosshans – U.S. EPA, Pete Harmet – IDOT, Stacy Meyers – Openlands, Joe Schuessler – MWRD, Wallace Van Buren – IAWA

Staff Present: Jason Navota, Louise Yeung, Elizabeth Schuh, Elizabeth Irvin, Kate Evasic, David Clark, Noel Peterson, Zach Vernon, Agata Dryla-Gaca, Marisa Prasse, Lindsay Bayley, Patrick Day, Andres Torres, Brian Daly, Nora Beck

Others Present: Moira Zellner – UIC, Dean Massey – UIC, Mike Klemens – WCGL, Mark Wagstaff – M3, Ryan Pettit – Terra Engineering

1.0 Call to Order

Sean Wiedel called the meeting to order at approximately 9:30 a.m.

2.0 Agenda Changes and Announcements

Patty Werner announced that the Lake County Stormwater Management Commission is hosting de-icing workshops on October 6 and 7; details [here](#).

3.0 Approval of Minutes – July 1, 2015

A motion to approve the minutes of the July 1 meeting was made by Patty Werner, seconded by Ed Collins, and with all in favor, carried.

4.0 Next Regional Plan: Socioeconomic Forecast – David Clark, CMAP Staff

CMAP is developing its approach to the next long-range socioeconomic forecast. As a part of this process, we have identified a list of enhancements that we would like to see in the next forecast; also, several firms with expertise in the field were invited to give informational presentations on forecasting and modeling techniques to help staff understand the range of approaches available. David Clark, using a [powerpoint presentation](#) summarized these activities and outlined the next steps. Beyond quick clarifications, the committee members had no discussion items.

5.0 Next Regional Plan: Green Infrastructure Co-Benefits Scope – Louise Yeung, CMAP Staff

GO TO 2040 emphasized increasing the amount of parkland and access to recreational space within our region's communities. CMAP is exploring an expansion of this topic for the next plan that (1) examines the co-benefits that green infrastructure provide for health, climate resilience, stormwater management, placemaking, and other aspects of environmental and social benefits; and (2) expands our definition of green infrastructure beyond parks and open spaces to contexts that range from transportation networks to urban landscaping. Using a [powerpoint presentation](#), Louise Yeung reviewed the previous GO TO 2040 targets and recommendations pertaining to Green Infrastructure. She described the process by which the strategy paper will dive deeper into this topic and potentially provide more geographic specificity. Yeung anticipates coming back to the committee in November with a presentation and discussion of co-benefit measurements.

ENR committee members made a number of comments and asked questions, which prompted discussion on the following points:

- Request to see the GO TO 2040 targets in relation to other development metrics and trends; i.e. the target to reduce impervious surface by 75,000 acres seems like a lot, but what is that compared to the anticipated creation of impervious surface or the amount of land use change in general?
- The inclusion of other Green Infrastructure outside of parks and large open spaces is important, but the indicator and corresponding target should be different as they provide different benefits.
- Greenways are harder to measure in miles.

6.0 Integrating Stormwater Management into Land Use Planning – Kate Evasic, CMAP Staff

Localized flooding is a common concern among the region's municipalities, yet many communities lack the resources to fully understand the problems they face or identify strategies to address flooding issues. CMAP staff are working to better integrate stormwater management into decisions about land use and development. Using a [powerpoint presentation](#), Kate Evasic explained the background of the project and then when into more details about the spatial approach CMAP is developing to understand likely paths of overland flow, delineate contributing drainage areas, and identify potential flood problem and corresponding opportunity areas to address flooding using land

surface solutions. Evasic will present the initial components of the approach and ask for feedback.

ENR committee members made a number of comments and asked questions, which prompted discussion on the following points:

- Flooding impacts and low-income neighborhoods that may not see new development. CMAP hopes to integrate stormwater management into regular planning efforts and we are working specifically in communities that may face this dilemma.
- Climate change and changing rainfall patterns. Regional flooding issues are fairly well understood, it's the localized flooding from severe weather events where more information is needed.
- Importance of looking at areas outside of a municipalities land use jurisdiction; regional coordination.
- Importance of having the storm sewer network as part of the analysis. CMAP has been grappling with this as well, trying to come up with an approach that is useful and low cost and can help implement land use based solutions.
- Partnering with other agencies with datasets. CMAP will be using existing data from FEMA, IDNR, and ISWS and will be sharing data that others can use.
- Use hydric soils to not only identify problem areas, but also opportunities for restored wetlands.
- LiDAR. CMAP is using a digital terrain model as an essential part of this process.

7.0 Green Infrastructure Effectiveness and Community Engagement Tools – Moira Zellner, UIC

Zellner and her research team have been investigating how effective green infrastructure can be in stormwater management, most recently to see if there are landscape design principles that can help determine thresholds and priority locations within a study area. Using a [powerpoint presentation](#), Zellner explained the L-Grid process which uses a model to predict where water will go in a specific landscape. The process considers rainfall over impervious, green infrastructure, and permeable cells and predicts the amount of water infiltrating into the ground, flowing into sewers, evaporating, evapotranspiration, surface flow, and outflow. Zellner stepped through her results for 5-year and 100-year storms. For 5-year storms in this specific modeled location, green infrastructure makes an impact on flooding when it covers approximately 10 percent of the landscape. For the 100-year storm, it takes more green infrastructure to make that impact, approximately 30 percent.

Zellner and her team also pondered where the best locations are for the placement of green infrastructure. For 5-year storms, placement next to roads had a larger impact. For 100-year storms, placement next to roads and a hybrid approach were more helpful. Zellner stepped through design principles learned from this process. She explained that thresholds do appear to exist, but need to be tailored to the landscape. Dispersed green infrastructure strategies appear to work better than clusters. There are some advantages to placing green infrastructure next to roadways and this could be a prioritized strategy as it helps to contain peaks in flows and is public property.

In addition, Zellner and her team have developed innovative community engagement protocols that include simulation models, mobile and paper interfaces, and facilitation guidelines to help stakeholders collectively make sense of the flooding problem, design solutions, and discuss these solutions. She stressed that a simulation alone cannot identify the best solution as there are tradeoffs that the community must consider. Zellner described the participatory modeling and how it provides a way for participants to understand hydrology and their place within it, different preferences, and diverse needs.

ENR committee members, CMAP staff, and guests made a number of comments and asked questions, which prompted discussion on the following points:

- Tested on real-world landscapes, with their land cover and topology as inputs.
- Current model is for a 4 square kilometer area
- Hope to eventually make the model open to public use.
- Composition, size of workshop. Diverse set of stakeholders (engineers, city staff, elected officials, teachers, no residents yet). Ideal size is 5 people around each map, maybe 2-3 maps per session but requires a trained facilitator at each one. Participants do not need to know anything about stormwater.
- Data requirements to be good enough? Land cover, topography. Sewer information is helpful, but make assumptions on capacity. Can reduce capacity if needed.
- Discussion about running the program in reverse to see what scenarios are needed to meet certain goals.
- Impact of trees and the massive Ash tree removal. Within a storm, not much different; Evapotranspiration is important in between storms. Trees might make more of a difference in more suburban contexts.
- Model can be applied to rural or agricultural landscapes.
- Model could be used to consider options on a redevelopment site; stormwater engineering still required.
- Different green infrastructure types (bioswales, rain barrels, etc) are included in the participatory model with different infiltration/retention assumptions and costs.

8.0 Other Business

No other business.

9.0 Next Meeting

The ENR Committee is scheduled to meet next on Wednesday, October 7, 2015.

10.0 Adjournment

A motion to adjourn the meeting was made by Patty Werner, seconded by Martha Dooley, and with all in favor, carried.